

Approaches to diagnosis and clinical management for the poisoned patient

the poisoned patient **A**

Assess condition (Airway, breathing, circulation, consciousness) **B**

Stable condition

Unstable condition

Recuscitation and first aid treatment

Identification **C**

Decontamination **D**

Prevent distribution **E**

Increase excretion **F**

(Detoxifying process)

- History (brief, focused) **C①**  
type, route, duration, dose,  
symptoms, medical background
- Physical signs\* **C②**
- Toxidromes\* **C③**
- Laboratory test and collecting specimen
- Diagnostic trial\* **C④**

- Ocular: copious saline lavage **D①**
- Skin: copious water then soap and water **D②**
- Injection : go to step detoxify
- Ingestion: **D③**
  - Ipecac **①** or lavage\* **②**
  - Activated charcoal\* **③**
  - Cathartics\* **⑤** / Whole bowel irrigation **⑥** / Dilution **⑦**
- Respiratory: remove from the place **D④**

- pH adjustment **E①**
- Systemic antidotes **E②**
- Dialysis **E③**

- Pulmonary: Ventilation **F①**
- Hepatic: Repetitive  
doses or  
Multiple doses  
Charcoal **F②** or **④**
- Renal: Fluid diuresis  
Osmotics, diuretics **F③**

ตารางแสดง Antidotes ที่ใช้บ่อยๆในเด็ก

Antidotes	Use	Doses	Routes	Adverse Effects/warnings
N-acetyl cysteine	Acetaminophen	Initial dose of 140 mg/kg per oral in water, fruit juice, or soda; then 70 mg/kg every 4 hr for 17 doses	PO	Nausea vomiting
Atropine	Organophosphate and carbamate pesticides; bradycardia due to atrioventricular conduction defect	0.05 mg/kg repeated every 5-10 min as needed. Dilute in 1-2 mL of NS for ET instillation	IV/ET	Tachycardia, dry mouth, blurred vision, and urinary retention
BAL in oil (dimercaprol)	Chelating agent for arsenic, mercury, lead, antimony, bismuth, chromium, copper, nickel, tungsten, and zinc	3-5 mg/kg every 4 h usually for 5-10 d	Deep IM	Local injection site pain and sterile abscess, nausea vomiting, fever, salivation, hypertension, and nephrotoxicity (alkalinize urine)
Benztropine(cogentin)	Acute dystonic reaction	0.02 mg/kg	IV/PO	Sedation, blurred vision, dry mouth, and tachycardia
Cyanide antidote kit	Cyanide	Amyl nitrite: 1 crushable ampule	Inhalation	Methemoglobinemia
Cyanide antidote kit	Cyanide	Sodium nitrite: 0.33 mL/Kg of 0.3% solution if hemoglobin level not known, otherwise based on tables in text	IV	Methemoglobinemia

Antidote	Use	Dose	Route	Adverse Effects/warnings
Cyanide antidote kit	Cyanide	Sodium thiosulfate: 1.6 mL(400 mg)/kg of 25% solution, may be repeated every 30-60 min to maximum of 50mL	IV	Methemoglobinemia
Deferoxamine (Desferal)	Iron	Infusion of 15 mg/kg/h (max6g/d)IV OR 1 gm load, then 0.5 g every 4 h IM	IV IM	Hypotension ( minimize by avoiding rapid infusion rates)
Diphenhydramine(benedryl)	Extrapyramidal symptoms, acute dystonic reactions, allergic reactions	0.5-1 mg/kg every 4-8 h 300 mg/24h max	IV/PO	Sedation or paradoxical agitation, ataxia
Dimercaptosuccinic acid (succimer, DMSA, Chemet)	Lead, and probably mercury, arsenic	10mg/kg every 8 h for 5 d, the 10mg/kg every 12 h for 14 d	PO	Nausea and vomiting
EDTA, calcium disodium	Lead, manganese, nickel, zinc, and perhaps chromium	1-1.5 g/m <sup>2</sup> /d in divided dosages every 12 h for 5 d	IV/IM	Nausea, vomiting, fever, hypertension, arthralgias, and allergic reactions, local inflammation and nephrotoxicity (maintain adequate hydration)
Ethanol(ethyl alcohol)	Methanol, ethylene glycol	Ethanol 750 mg/kg loading dose followed by 100-150 mg/kg/hr infusion of 5%-10% ethanol	IV/PO	Nausea, vomiting, sedation
Flumazenil (Romazicon)	Benzodiazepines	0.3 mg every 1 min to a max of 3 mg	IV	Nausea, vomiting, facial flushing, agitation, headache, dizziness, seizures

Antidote	Use	Dose	Route	Adverse Effects/ Warnings
Glucagon	Beta blockers, calcium channel blockers, hypoglycemic agents	0.15 mg/kg bolus followed by infusion of 0.05-0.1 mg/kg/h	IV	Hyperglycemia, nausea, and vomiting
Methylene blue	Methemoglobinemia	0.1-0.2 mL/kg of 1% solution, slow infusion, may be repeated every 30-60 min	IV	Nausea, vomiting, headache, dizziness
Naloxone (Narcan)	Narcotics	0.01 mg/kg; if no effect, give 0.1 mg/kg; may be repeated as needed; may give continuous infusion	IV	Acute withdrawal symptoms if given to addicted patients
d- Penicillamine ( Cuprimine)	Chelating agent for lead, mercury, arsenic and copper	25-100 mg/kg/d divided four times a day(max 1 g)	PO	Allergic reactions, anorexia, nausea, and vomiting
Physostigmine	Anticholinergic agents	0.02 mg/kg; slow push	IV	Bradycardia, asystole, seizures, bronchospasm, vomiting, headache
Pralidoxime (2-PAM)	Organophosphates	25-50 mg/kg over 5-10 min (max 200 mg/min), can be repeated every 1 h as needed	IV	Nausea, dizziness, headache. Tachycardia, muscle rigidity, and bronchospasm ( rapid administration)
Vitamin K	Coumadin, indanedione rodenticides	1-5 mg repeated every 6-8 h as needed	SC or IM	Uncommon